

I. Find the slope of the line through the points. (4 points each)

1. (5, 6) (-9, 6)

$$\frac{6-6}{-9-5} = \frac{0}{-14} \quad \boxed{m=0}$$

2. (4, 0) (1, -2)

$$\frac{-2-0}{1-4} = \frac{-2}{-3} \quad \boxed{m=\frac{2}{3}}$$

3. (-3, -1/2) (-6, -1/4)

$$\frac{-\frac{1}{4}-(-\frac{1}{2})}{-6-(-3)} = \frac{\frac{1}{4}}{-3} \quad \boxed{m=-\frac{1}{12}}$$

4. (5, 70) (5, 76)

$$\frac{76-70}{5-5} = \frac{6}{0} \quad \boxed{m=\text{undefined}}$$

II. Find the x- and y-intercepts of the equation. Leave your answers in coordinate form. (4 points each)

1. $\frac{3}{8}x + y = 3$

$$(8, 0) \quad (0, 3)$$

2. $2x + 3y = -12$

$$(-6, 0) \quad (0, -4)$$

III. Graph the linear equation. (5 points each)

1. $3x + 2y = 6$

$$y = -\frac{3}{2}x + 3$$

2. $-x + 3y = 0$

$$y = \frac{1}{3}x$$

IV. Write the equation of a line in $y = mx + b$ form. (6 points each)

1. (4, -2) $m = -1$

$$-2 = -1(4) + b$$

$$-2 = -4 + b$$

$$2 = b$$

$$\boxed{y = -1x + 2}$$

2. (1, 2) (4, -1)

$$\frac{-1-2}{4-1} = \frac{-3}{3} = -1 \quad 2 = -1(1) + b$$

$$2 = -1 + b$$

$$3 = b$$

$$\boxed{y = -1x + 3}$$

3. parallel to $y = \frac{1}{2}x - 4$
through (-6, 3)

$$3 = \frac{1}{2}(-6) + b$$

$$3 = -3 + b$$

$$6 = b$$

$$\boxed{y = \frac{1}{2}x + 6}$$

4. (-6, 5) $m = 1/3$

$$5 = \frac{1}{3}(-6) + b$$

$$5 = -2 + b$$

$$7 = b$$

$$\boxed{y = \frac{1}{3}x + 7}$$

Answer

5. (3, 1) (-3, 5)

$$\frac{5-1}{-3-3} = \frac{4}{-6} = -\frac{2}{3}$$

$$1 = -\frac{2}{3}(3) + b$$

$$1 = -2 + b \quad b = 3$$

$$y = -\frac{2}{3}x + 3$$

6. perpendicular to $y = -3x - 2$
through $(-4, 1)$

$$m = \frac{1}{3}$$

$$1 = -4\left(\frac{1}{3}\right) + b$$

$$1 = -\frac{4}{3} + b$$

$$\frac{7}{3} = b$$

$$y = \frac{1}{3}x + \frac{7}{3}$$

V. True or False (2 points each)

F 1. There are two types of slope, positive and negative. Zero & undefined

T 2. All lines on a coordinate plane are either intersecting or parallel.

T 3. A line with an undefined slope is a vertical line.

F 4. The x-intercept of a line is where the graph crosses the y-axis. False
x-axis

F 5. To write an equation of a line, you need the slope and the x-intercept. y-intercept & slope

VI. Graph the linear inequality.

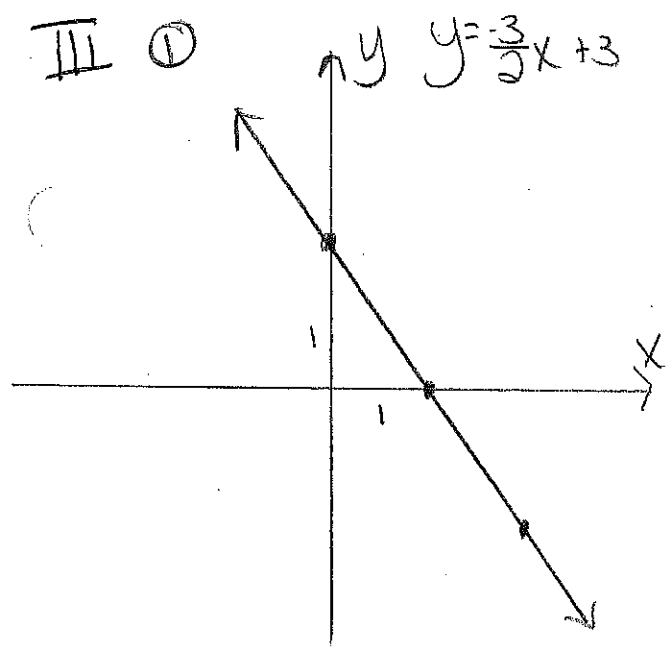
1. $y > 3x - 2$

2. $y \leq -\frac{2}{3}x + 5$

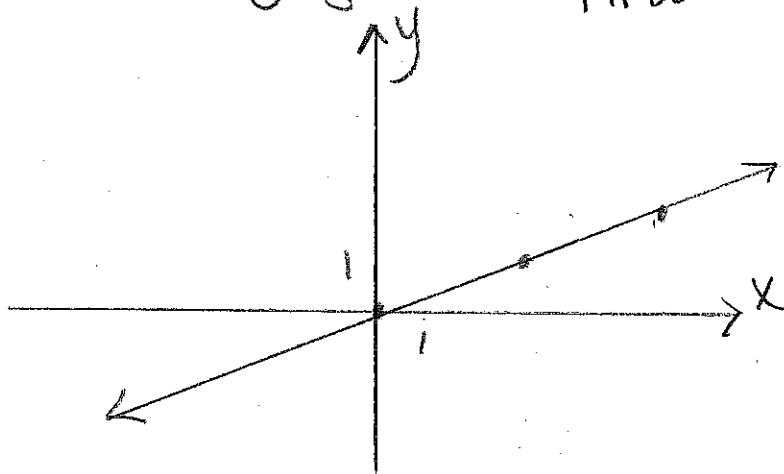
3. $x > -3$

Separate sheet

III ①

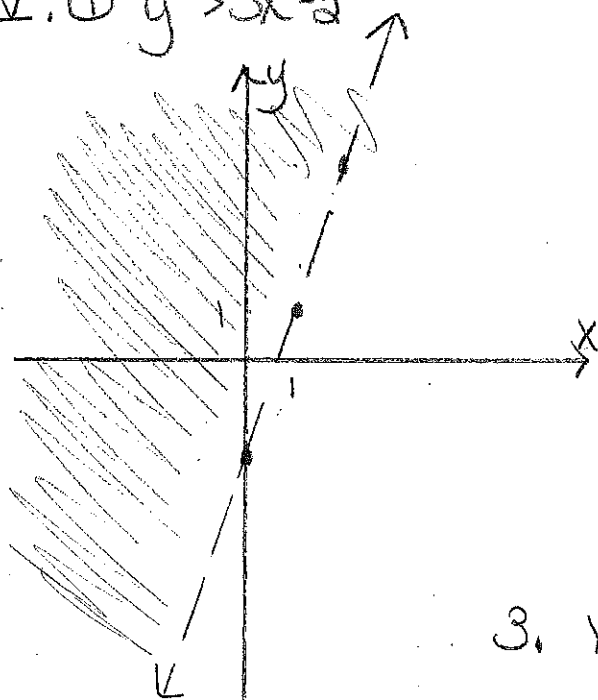


② $y = \frac{1}{3}x$

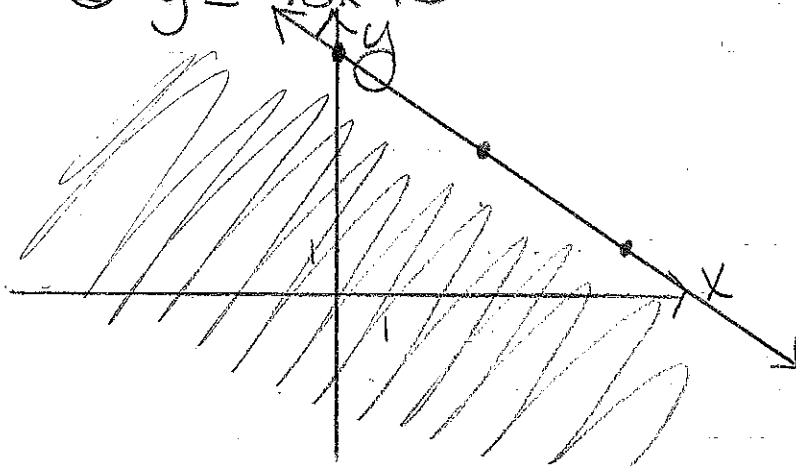


Answers

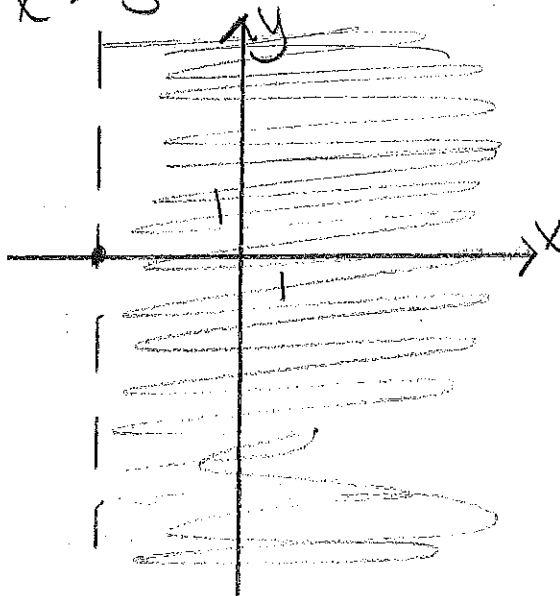
IV. ① $y > 3x - 2$



② $y \leq -\frac{2}{3}x + 5$



3. $x > -3$



Chapters 4 and 5
Practice Quiz

Name: Key

I. Find the slope of the line passing through the points.

1. (2, -1) (3, 4)

$$\frac{4 - (-1)}{3 - 2} = \frac{5}{1}$$

2. (0, 8) (-1, 2)

$$\frac{2 - 8}{-1 - 0} = \frac{-6}{-1} = \frac{6}{1}$$

3. (2, 4) (5, 0)

$$\frac{0 - 4}{5 - 2} = \frac{-4}{3}$$

II. Find the x- and y- intercepts of each equation.

1. $x - 2y = 10$

(10, 0) (0, -5)

2. $3x + 4y = -24$

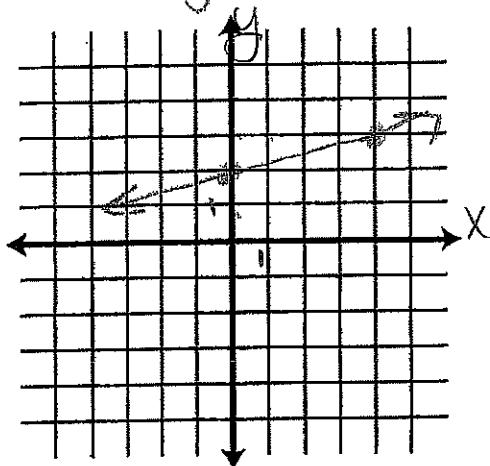
(-8, 0) (0, -6)

III. Sketch the graph of the line.

1. $-x + 4y = 8$

$$4y = x + 8$$

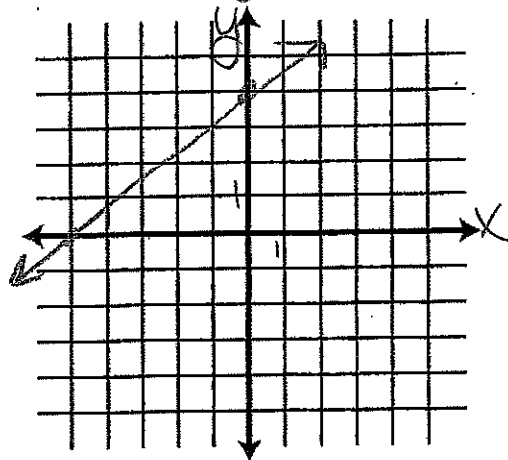
$$y = \frac{1}{4}x + 2$$



2. $4x - 5y = -20$

$$-5y = -4x - 20$$

$$y = \frac{4}{5}x + 4$$



IV. Write the equation of a line in $y = mx + b$ form with the information given.

1. $(6, -1)$ $m = 3$

$$y + 1 = 3(x - 6)$$

$$y + 1 = 3x - 18$$

$$y = 3x - 19$$

2. parallel to $y = -x - 7$
passes through $(2, -6)$

$$m = -1 \quad (2, -6)$$

$$y + 6 = -1(x - 2)$$

$$y + 6 = -x + 2$$

$$y = -x - 4$$

3. $(-3, -3)$ $(3, -1)$

$$\frac{-1 - (-3)}{3 - (-3)} = \frac{2}{6} = \frac{1}{3}$$

$$y + 1 = \frac{1}{3}(x - 3)$$

$$y = \frac{1}{3}x - 2$$

4. $(1, -6)$ $(-3, 2)$

$$\frac{2 - (-6)}{-3 - 1} = \frac{8}{-4} = -2$$

$$y - 2 = -2(x + 3)$$

$$y = -2x - 4$$

5. perpendicular to $y = -2/3x + 2$
passes through $(-4, 7)$

$$m = \frac{3}{2}$$

$$y - 7 = \frac{3}{2}(x + 4)$$

$$y - 7 = \frac{3}{2}x + 6$$

$$y = \frac{3}{2}x + 13$$

6. $(5, -3)$ $m = 1/5$

$$y + 3 = \frac{1}{5}(x - 5)$$

$$y + 3 = \frac{1}{5}x - 1$$

$$y = \frac{1}{5}x - 4$$

V. True or False

F 1. The slope of a vertical line is always zero.

F 2. Two lines that graphed on the same coordinate plane are always parallel or perpendicular.

~ 3. There is only one line of best fit for each scatter plot.

T 4. Parallel lines have the same slope.